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# RECOMMENDED ARTICLES

In this issue of the journal, recommended articles are selected from the Korean Journal of Acupuncture (ISSN: 1229-7933) published in Korean and from the Journal of Pharmacopuncture (ISSN: 2093-6966) published in English.

### (1) Korean Journal of Acupuncture Vol. 29, No. 4, pp. 554~562, 2012

## Analysis of Pupil Size Variability for Effectiveness Verification of the Activation Level of the Autonomic Nervous System by Using an Electromagnetic Acupuncture System

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### Abstract

**Objective:** The purpose of this research was to verify the effects of the electromagnetic acupuncture (EMA) at BL15 on pupil size variability (PSV), which is directly related to the activation of the autonomic nervous system.

**Methods:** Thirty male subjects participated in this study and were divided into three groups (non-stimulated, manual acupuncture and EMA groups). The size of the pupil was measured in a cube of $60 \times 60 \times 60$ $cm^3$ in order to avoid the effects of the surrounding areas. In all subjects, the size of the left pupil was measured for about 200 sec in constant illumination.

**Results:** We observed a decrease in PSV for the manual acupuncture group compared to the non-stimulation group, but that difference was not statistically significant ($p > 0.05$). The decrease in PSV for the EMA group was observed and compared with the results for the other two groups, and a statistically significant difference between the decrease in PSV for the EMA group and the decreases for the other two groups ($p < 0.05$) was confirmed.

**Conclusions:** We conclude that the EMA treatment method activates the parasympathetic nervous system by inducing a biotransformation.

**Key words:** electromagnetic acupuncture; pulsed electromagnetic fields; pupil size variability; autonomic nervous system

### (2) Korean Journal of Acupuncture Vol. 29, No. 4, pp. 581~597, 2012

## Acupuncture Experience in Patients with Chronic Low Back Pain (2): A Qualitative Study That Focused on Participants in a Randomized Controlled Trial

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### Abstract

**Objective:** The purpose of this study was to explore experiences with patients complaining of chronic low back pain (CLBP) by using a randomized controlled trial (RCT) of acupuncture.

**Methods:** Five qualitative focus group interviews were conducted at three Korean Medicine Hospitals. Two to four participants from the same group (real or sham acupuncture) in the RCT of acupuncture for CLBP discussed their experiences with and perceptions of the clinical trial and the acupuncture treatment. Transcribed data were read independently by researchers and analyzed to categorize information and identify themes.
**Results:** A total of 14 participants were included. Most of them reported positive aspects of being a study subject and a patient. They recognized the differences between experimental and real-world clinical settings, such as formal procedures of treatment and different acupuncture devices. Participants also expressed a weaker sensation of acupuncture compared to their previous experiences. Especially, they were well aware of the roles of the 'subjects' themselves; thus, they observed the changes in their symptoms closely. As the subjects were generally satisfied with their treatment and they had a good feeling about acupuncture after the trial, they expressed their willingness to participate in future clinical trials of acupuncture.
**Conclusions:** Our finding suggests that the experiences of Korean patients participating in an RCT were generally positive. Their tendency to perform the 'subject' role might have affected the trial's process and/or the overall results.
**Key words:** acupuncture; RCT; qualitative study; focus group interview; low back pain

**(3) Korean Journal of Acupuncture Vol. 29, No. 4, pp. 598～603, 2012**

## Anti-inflammatory Effect of *Polygoni Avicularis Herba* Herbal-acupuncture at KI10 on LPS-Induced Nephritis in Rats

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**Abstract**

**Objective:** This study aimed to evaluate the effects of Polygoni avicularis Herba herbal acupuncture (PaH-HA) at KI10 (Umgok) on nephritis induced by lipopolysaccharide (LPS) in rats.
**Methods:** Rats were allocated into normal, control, and three experimental groups. The rats in the control group were intraperitoneally injected with LPS for nephritis induction. The rats in the groups of experiment 1, experiment 2, and experiment 3 were treated with a single needle prick, a saline injection, and PaH-HA, respectively, at KI10 three times a week and were then injected with LPS. To evaluate the effects of PaH-HA at HI10, we measured the white blood cell (WBC) count in the blood, serum cytokine-induced neutrophil chemoattractant-1 (CINC-1), renal tumor necrosis factor-alpha (TNF-$\alpha$) and renal myeloperoxidase (MPO).
**Results:** Needle prick at KI10 suppressed the increase in the WBC in the blood and the CINC-1 in serum for the LPS-stimulated rats. Saline injection at KI10 suppressed the increase in the WBC in the blood. PaH-HA at KI10 suppressed the increases in the WBC in the blood, the CINC-1 in serum, and the MPO in the kidney for the LPS-stimulated rats.
**Conclusions:** PaH-HA at KI10 has an anti-inflammatory effect on LPS-induced nephritis in rats, and a synergism may exist between KI10 (Umgok) stimulation and the injection of a PaH-HA solution.
**Key words:** herbal-acupuncture; KI10; *Polygoni avicularis Herba*; LPS-induced nephritis

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**(4) Journal of Pharmacopuncture, Vol. 15, No.4, pp.32～41, 2012**

## *Rehmannia Glutinosa* Pharmacopuncture Solution Regulates Functional Activation, FcεRI Expression, and Signaling Events in Mast Cells

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**Abstract**

**Objectives:** Rehmannia glutinosa pharmacopuncture solution (RGPS) was investigated to determine both its anti-allergic inflammatory effects on mast cells and its detailed mechanism of actions.